

WHAT IS CLAIMED IS:

1. A grinding machine comprising:
 - a work spindle for rotating a workpiece;
 - a wheel head for advancing/retracting to said workpiece;
 - 5 a grinding wheel carried rotatably by said wheel head and for grinding an eccentric portion of said workpiece; and
 - a grinding fluid supply-nozzle for supplying grinding fluid to a grinding point where said grinding wheel contacts said eccentric portion of said workpiece;
 - wherein said grinding point moves from a plane including axes of said work
 - 10 spindle and said grinding wheel;
 - wherein said grinding fluid supply-nozzle is made from a curve portion, an opening and therebetween a straight portion;
 - wherein said grinding fluid supply-nozzle spouts said grinding fluid to a grinding fluid supply point maintained its position upstream said grinding point, even
 - 15 in the case that said grinding wheel has been abraded up; and
 - wherein the angle between the tangent of said grinding fluid supply point and said grinding fluid spouted from said grinding fluid supply-nozzle is smaller than a right angle.
- 20 2. A grinding machine according to Claim 1, wherein the section of said straight portion of said grinding fluid supply-nozzle forms a rectangle and maintains its rectangular shape at least 10 millimeters.
3. A grinding machine according to Claim 1, wherein said workpiece is a
- 25 camshaft and said eccentric portion is a cam lobe.
4. A grinding machine according to Claim 1, wherein said workpiece is a crankshaft and said eccentric portion is a crankpin portion.

5. A grinding machine according to Claim 1, wherein said workpiece is a shaft of a compressor and said eccentric portion is a rotor portion.

6. A grinding machine comprising:

5 a work spindle for rotating a workpiece;

a wheel head for advancing/retracting to said workpiece;

a grinding wheel carried rotatably by said wheel head and for grinding an eccentric portion of said workpiece; and

10 a grinding fluid supply-nozzle for supplying grinding fluid to a grinding point where said grinding wheel contacts said eccentric portion of said workpiece;

wherein said grinding point moves from a plane including axes of said work spindle and said grinding wheel;

wherein said grinding fluid supply-nozzle is made from a curve portion and a taper portion;

15 wherein said grinding fluid supply-nozzle spouts said grinding fluid to a grinding fluid supply point maintained its position upstream said grinding point, even in the case that said grinding wheel has been abraded up; and

20 wherein the angle between the tangent of said grinding fluid supply point and said grinding fluid spouted from said grinding fluid supply-nozzle is smaller than a right angle.

7. A grinding machine according to Claim 6, wherein the section of said taper portion of said grinding fluid supply-nozzle forms a rectangle and wherein said taper portion tapers off to its tip at a forty-degree angle or less.

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8. A grinding machine according to Claim 6, wherein said workpiece is a camshaft and said eccentric portion is a cam lobe.

9. A grinding machine according to Claim 6, wherein said workpiece is a crankshaft and said eccentric portion is a crankpin portion.

10. A grinding machine according to Claim 6, wherein said workpiece is a shaft of a compressor and said eccentric portion is a rotor portion.

11. A grinding fluid supply-nozzle for a grinding machine comprising a curve portion, an opening and therebetween a straight portion; and

wherein said grinding fluid supply-nozzle supplies grinding fluid to a grinding point where a grinding wheel contacts an eccentric portion of a workpiece;

wherein said grinding point moves from a plane including rotational axes of said workpiece and said grinding wheel;

wherein said grinding fluid supply-nozzle spouts said grinding fluid to a grinding fluid supply point maintained its position upstream said grinding point, even in the case that said grinding wheel has been abraded up; and

wherein the angle between the tangent of said grinding fluid supply point and said grinding fluid spouted from said grinding fluid supply-nozzle is smaller than a right angle.

12. A grinding fluid supply-nozzle for a grinding machine according to Claim 11, wherein the section of said straight portion of said grinding fluid supply-nozzle forms a rectangle and maintains its rectangular shape at least 10 millimeters.

13. A grinding fluid supply-nozzle for a grinding machine according to Claim 11, wherein said workpiece is a camshaft and said eccentric portion is a cam lobe.

14. A grinding fluid supply-nozzle for a grinding machine according to Claim 11, wherein said workpiece is a crankshaft and said eccentric portion is a crankpin portion.

15. A grinding fluid supply-nozzle for a grinding machine according to Claim 11, wherein said workpiece is a shaft of a compressor and said eccentric portion is a rotor portion.

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16. A grinding fluid supply-nozzle for a grinding machine comprising a curve portion and a taper portion; and

wherein said grinding fluid supply-nozzle supplies grinding fluid to a grinding point where a grinding wheel contacts an eccentric portion of a workpiece;

10 wherein said grinding point moves from a plane including rotational axes of said workpiece and said grinding wheel;

wherein said grinding fluid supply-nozzle spouts said grinding fluid to a grinding fluid supply point maintained its position upstream said grinding point, even in the case that said grinding wheel has been abraded up; and

15 wherein the angle between the tangent of said grinding fluid supply point and said grinding fluid spouted from said grinding fluid supply-nozzle is smaller than a right angle.

17. A grinding fluid supply-nozzle for a grinding machine according to Claim 16, wherein the section of said taper portion of said grinding fluid supply-nozzle forms a rectangle and wherein said taper portion tapers off to its tip at a forty-degree angle or less.

18. A grinding fluid supply-nozzle for a grinding machine according to Claim 16, wherein said workpiece is a camshaft and said eccentric portion is a cam lobe.

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19. A grinding fluid supply-nozzle for a grinding machine according to Claim 16, wherein said workpiece is a crankshaft and said eccentric portion is a crankpin portion.

20. A grinding fluid supply-nozzle for a grinding machine according to Claim 16, wherein said workpiece is a shaft of a compressor and said eccentric portion is a rotor portion.